

A diagram illustrating the water cycle. It shows a landscape with a sun, clouds, and a body of water. Blue arrows indicate the movement of water: evaporation from the water surface and transpiration from plants into the atmosphere, condensation of water vapor into clouds, and precipitation falling as rain or snow. Some arrows show water flowing into a body of water, while others show it flowing into a stream or river.

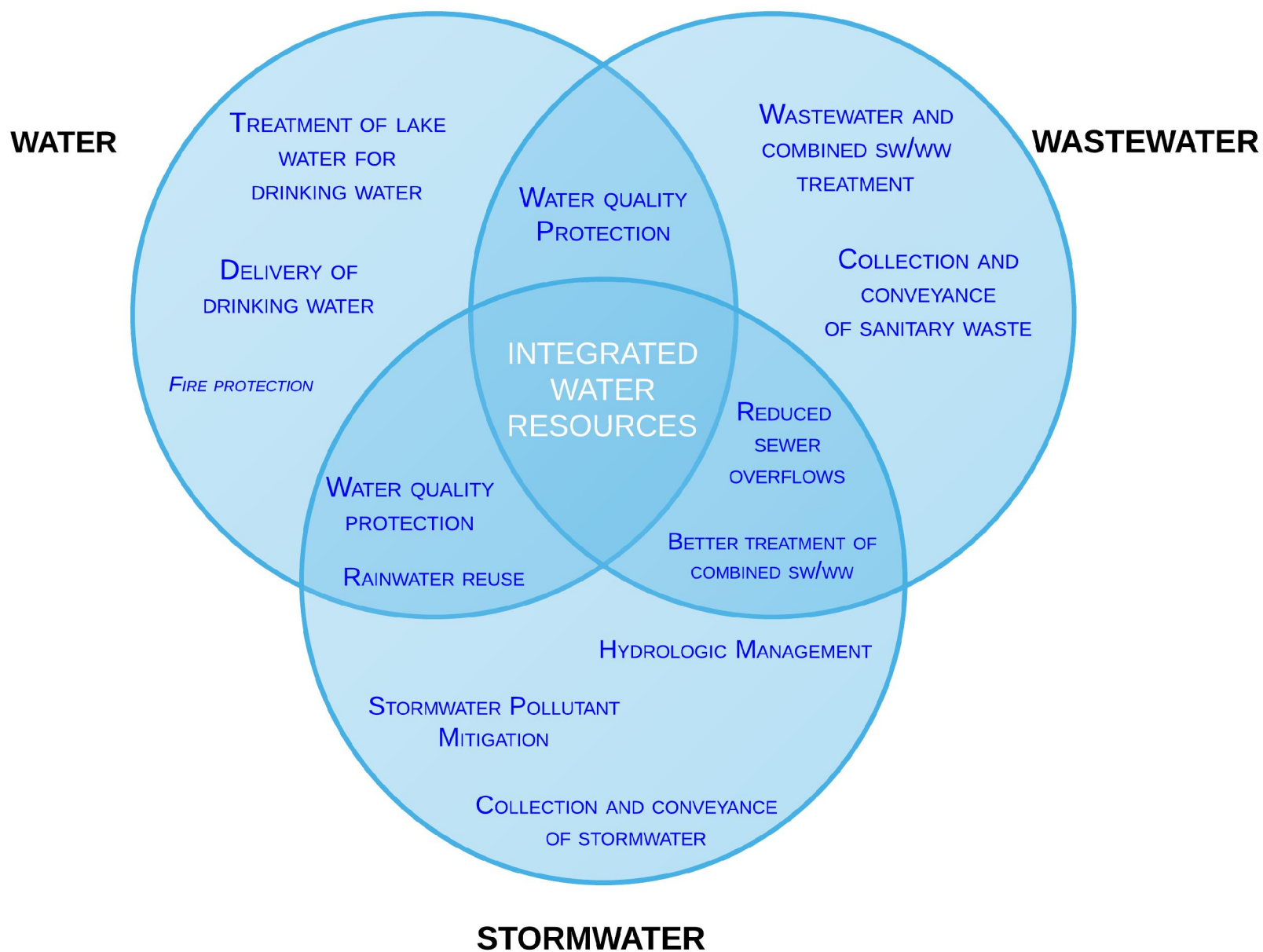
# BURLINGTON PUBLIC WORKS

FY2016 PROPOSED BUDGETS  
Water, Wastewater & Stormwater

# DPW MISSION STATEMENT

- We steward Burlington's infrastructure and environment by delivering efficient, effective and equitable public services.





# Water Resources

- Water Supply
  - Treatment of water from Lake Champlain for drinking water
  - Distribution of water to homes, businesses and fire hydrants
  - Maintenance of water distribution system including valves, water mains & services, fire hydrants, elevated storage tanks and reservoirs
- Wastewater (Sanitary)
  - Treatment of sewage from homes and business before discharge to the Winooski River and Lake Champlain
  - Treatment of combined stormwater/wastewater to maximum extent practicable before discharge
  - Maintenance of collection system, three treatment plants, 25 pump stations
- Stormwater Management
  - Collection of stormwater runoff in combined and separate storm sewers
  - Regulatory review of increases in impervious surface or earth disturbances to mitigate (Chapter 26)
  - Watershed Planning and Retrofit design to mitigate stormwater runoff volumes and treat pollutants before discharge to waterways

# Water Resources, by the Numbers

- 1 water plant
- 110 miles of water mains
- 3 Wastewater Treatment Plants
- 49 miles of sanitary sewer
- 45 miles of combined sanitary / storm sewer
- 37 miles of storm sewer
- 25 pump stations
- 102 storm water outfalls
- 2,000+ catch basins
- 900 fire hydrants
- 2 post-closure landfills
- 1 methane powered generating station

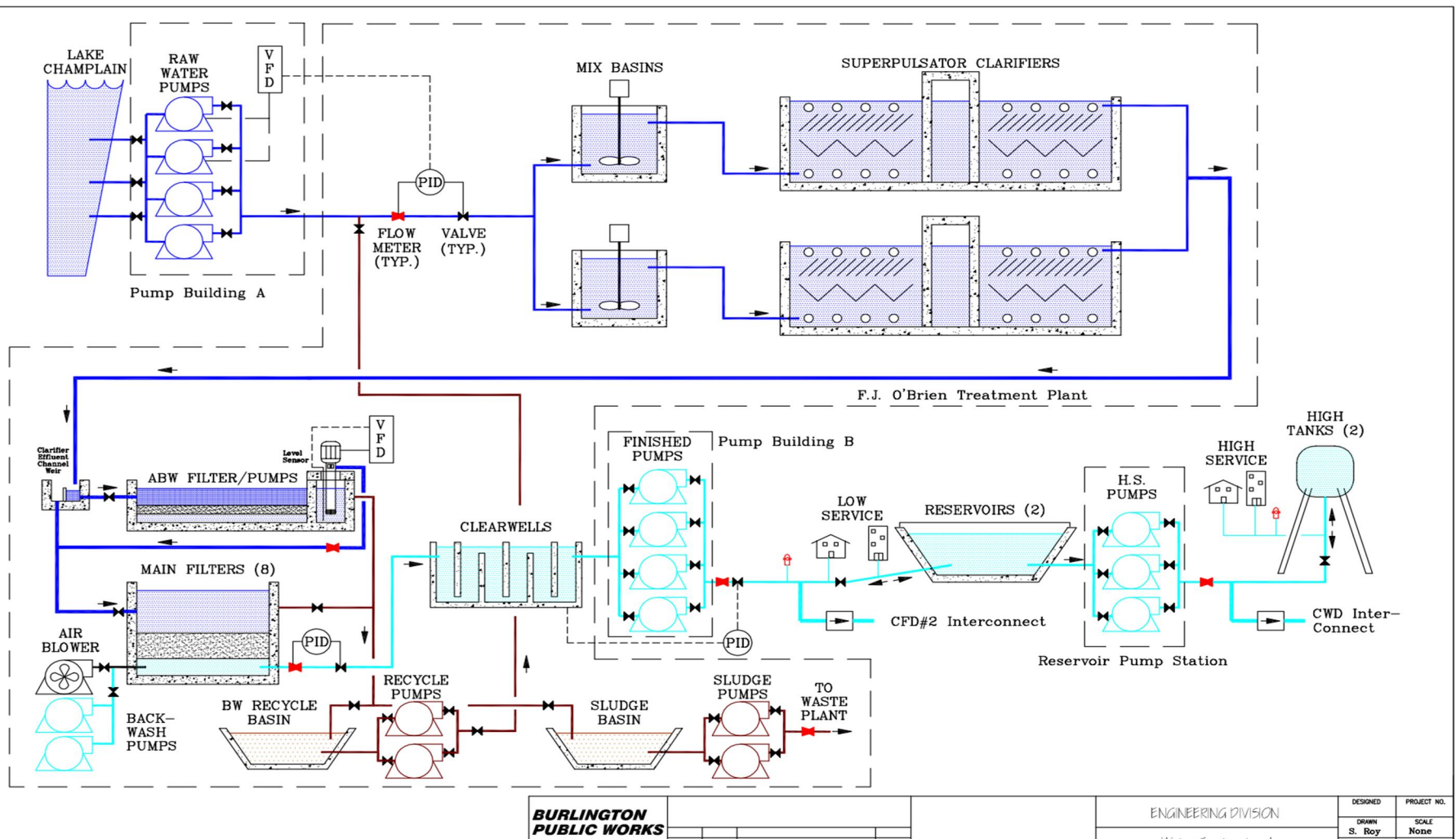
# Water Resource FY 16 Budget Principles

- Fair
  - Water Meter Replacement Initiative
  - Sustainable Rate Structure (reducing infrastructure deficit)
- Factual
  - Develop key performance Indicators for evaluating FY'16 performance
- Forward
  - Water Resources Infrastructure Reinvestment
  - Asset Management Planning
  - Development of Fund Balance Policy
  - Implementation of Key Initiatives for Water Resources



# Water Resource FY 16 GOALS

- Water Resources Infrastructure Reinvestment
  - Fully fund Water Capital needs (for the first time)



# Water system aging infrastructure 2014-15

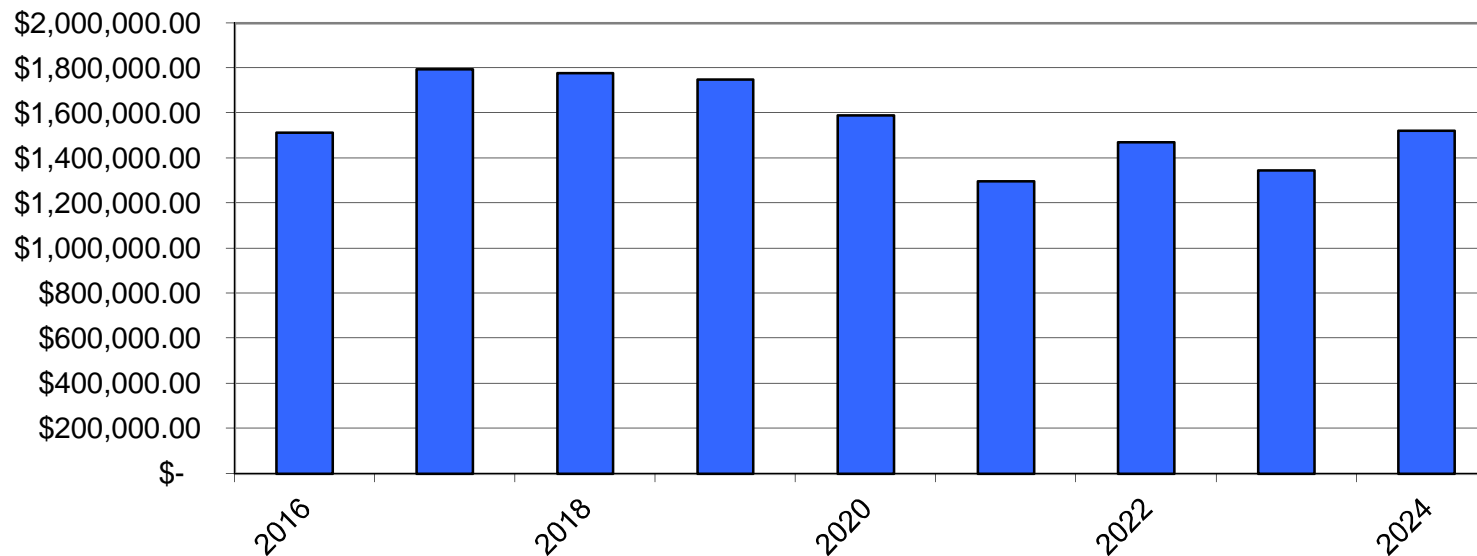




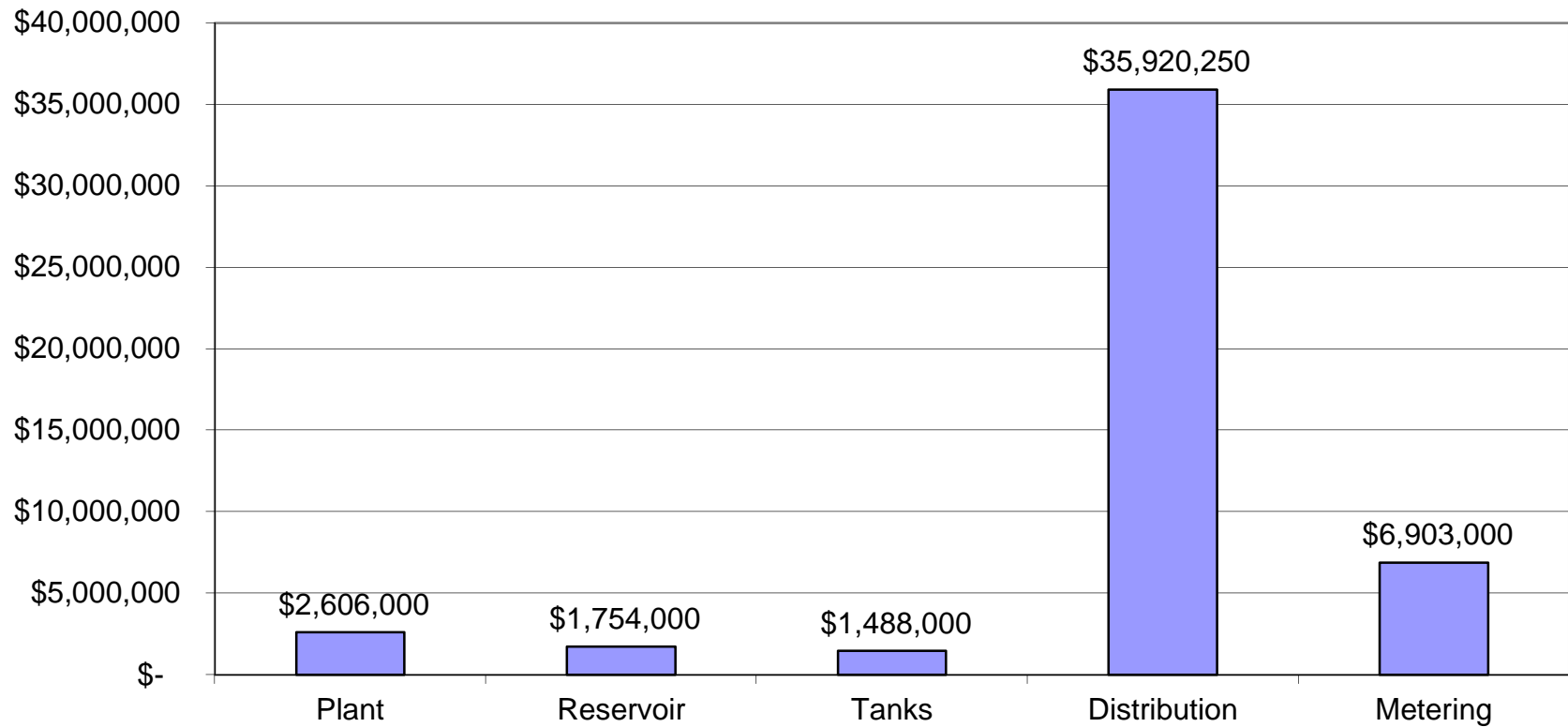
# Water Capital Plan

BURLINGTON PUBLIC WORKS					DRAFT		btv_water_capital_2014.xls	
WATER DIVISION					Original Date:		2/12/2008	
					Revised Date:		2/17/2015	
WATER CAPITAL PLAN							ADJUSTED	
			EST. CAPITAL	PROBABILITY	TREATMENT OR	PROBABILISTIC		
			COST (2014 \$)	OF FAILURE [P]	SUPPLY RISK [R]	RISK ASSESS-		ASSESSMENT
DEFICIENCY DESCRIPTION	AREA	SUBAREA	ENR = 9870	(1 high to 5 low)	(1 high to 6 low)	MENT [P X R]		COMMENTS
Repair HWS&R line insulation across alley	Plant	HVAC	\$ 1,000	1	1	1		Heat loss wastes energy.
Reservoir Interior Relining (North & South)	Reservoir	Storage	\$ 450,000	1	1	1		Leakage = water loss. Proposal using XR3-PW liner.
Oakland Terrace - replace 6" w/8" to hydrants, 2" around.	Distribution	Mains	\$ 45,000	1	1	1		Replacement before Street Capital Program.
Morgan Street - Replace 2" galvanized with CTS.	Distribution	Mains	\$ 20,000	1	1	1		Replacement before Street Capital Program.
Pine Street - Howard to Lakeside (before Champlain Parkway)	Distribution	Mains	\$ 530,000	1	2	2		Replacement based upon break history and planned street upgrade.
Replace roof over office, lab, and control room	Plant	Main Building	\$ 64,000	1	2	2		Potential damage to equipment if not replaced.
So. Cove Rd - ALL	Distribution	Mains	\$ 293,250	2	1	2		Replacement based upon break history.
Replace drain valves and operators	Plant	Filtration	\$ 83,000	2	1	2		Most valves 20+ years old.
Replace air valves and operators	Plant	Filtration	\$ 75,000	2	1	2		Most valves 20+ years old.
Replace single boiler/pump with dual boiler/pump system	Plant	HVAC	\$ 52,000	2	1	2		Resize to a smaller, high efficiency boiler.
Austin Drive - Redrocks to Home	Distribution	Mains	\$ 140,000	1	3	3		Replacement based upon break history and planned street upgrade.

**WATER ESTIMATED ANNUAL CAPITAL COSTS**



## WATER CAPITAL COSTS BY SYSTEM AREA (30 years)



# Water Resource FY 16 GOALS

- Water Resources Infrastructure Reinvestment
  - Fully fund Water Capital needs (for the first time)
  - Maintain Wastewater Capital spending until Wastewater Capital Plan is complete

# Wastewater Infrastructure Needs



# Water Resource FY 16 GOALS

- Water Resources Infrastructure Reinvestment
  - Fully fund Water Capital needs (for the first time)
  - Maintain Wastewater Capital spending until Wastewater Capital Plan is complete
  - Move towards more sustainable Stormwater capital spending
    - based on known capital deficiencies and
    - to provide match \$ for stormwater improvements during other City general fund projects



# Stormwater Capital Reinvestment Needs: Corrugated Metal Pipe and SW Outfalls



~53,000 linear feet of CMP (~10 miles)



- \*102 outfall pipes
- \*10-20% outfall areas are failed, with others in poor condition –

- water quality impacts (sediment)
- in some cases affecting public and private infrastructure

# Stormwater Capital Plan Development and Implementation

- Utilize Clean Water State Revolving Fund Loans to develop components of Stormwater Capital Plan and fund long term implementation
- Proposed projects
  - Stormwater pipe filming, prioritization and lining
  - Outfall damage assessment/prioritization, design and construction
  - Stormwater improvements integrated master planning and implementation
    - Regulatory requirements (Improvements for Streams and Lake Champlain and CSO abatement)
    - Flooding improvements

# Water Resource FY 16 GOALS

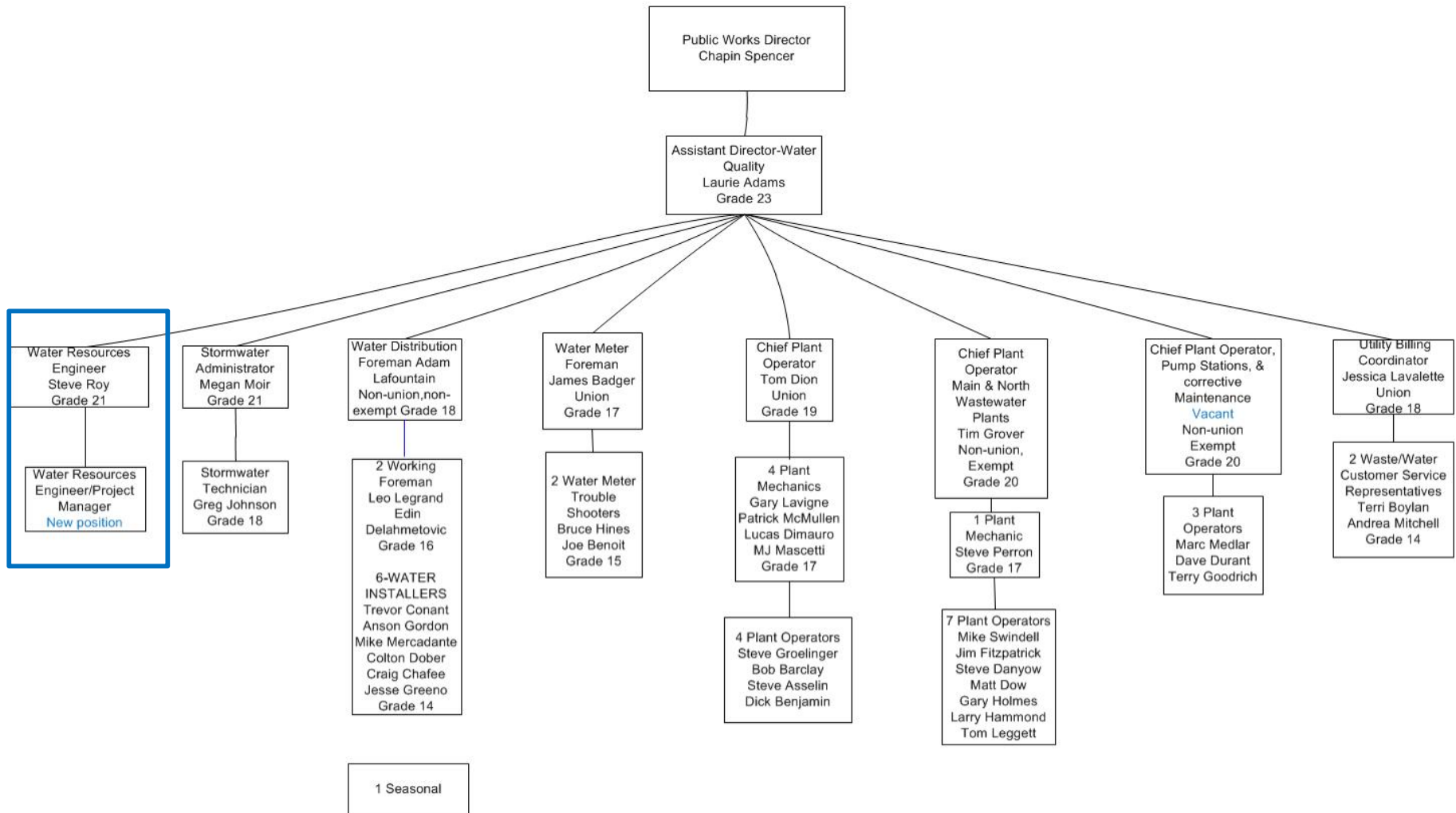
- Use Water Resource maintenance and capital \$ as efficiently as possible
  - Improved in field data collection with ArcGIS
  - Asset Management Planning
    - Scoping study in early FY 16
    - Begin development of written asset management plan in late FY 16
      - Levels of Service/Performance indicators
      - Likely acquisition of a computerized maintenance management system
      - Enhance capital planning through improved condition assessment

# Water Resource FY 16 GOALS

- Increase organizational capacity to address and manage capital needs
  - Transfer of PW Engineer to Water Resources
  - Additional Engineer/Project Manager
  - Reorganization of Water Resources staff in FY 16
    - Projected to be budget neutral



# Department of Public Works FY16 Organizational Chart May, 2015





# Water Resource FY 16 GOALS/DRIVERS

- Work towards sustainable rate structure
  - Minimal, modest increases more consistently vs. substantial intermittent increases
  - Ensure that future rate payers are not unfairly burdened by ever increasing infrastructure deficit
  - Develop budgets that adequately fund a sufficient reserve for emergencies
    - Develop Enterprise Fund Reserve Policy specific to the nature of revenue and expense volatility

# FY 16 Water Resources Enterprise Budgets

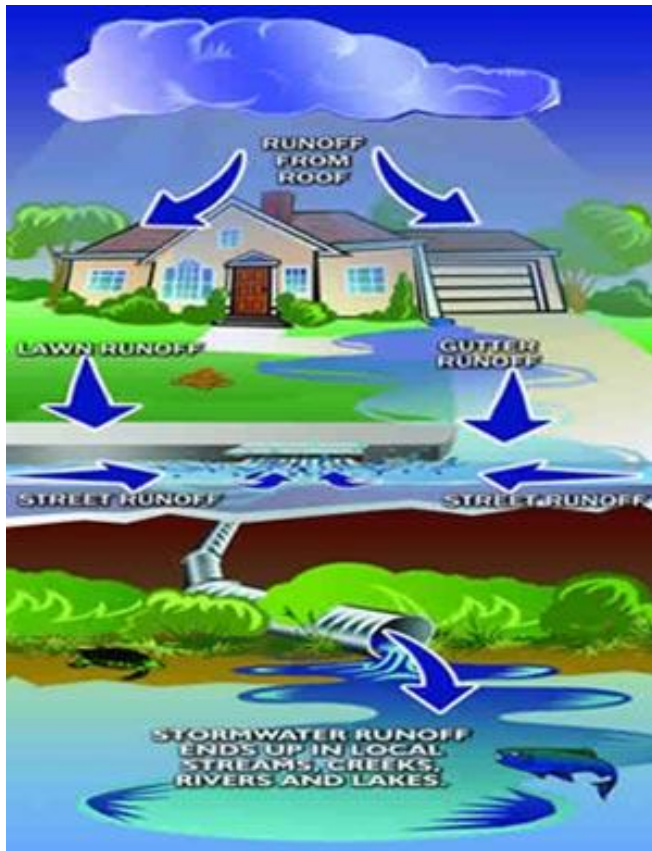
Water			
	FY'15 Budget	FY'16 Budget	Change
Revenues	\$5,976,088	\$6,545,746	\$569,658
Expenses	\$5,965,605	\$6,479,743	\$514,138
Net	\$10,483	\$66,003	\$55,520
Wastewater			
	FY'15 Budget	FY'16 Budget	Change
Revenues	\$7,966,862	\$8,035,048	\$68,186
Expenses	\$7,559,367	\$7,737,637	\$178,270
Net	\$407,495	\$297,411	-\$110,084.00
Stormwater			
	FY'15 Budget	FY'16 Budget	Change
Revenues	\$1,156,139	\$1,273,213	\$117,074
Expenses	\$1,156,139	\$1,256,273	\$100,134
Net	\$0	\$16,940	\$16,940

# Water Resources Utilities Rate Background

Fiscal Year	Rate/100 cf Water	Rate/100 cf Wastewater	Flat Fee/month Stormwater	ISU (1000 s.f.) Stormwater
2011	\$3.17	\$4.71	\$3.00	\$1.17
2012	\$3.17	\$5.18	\$3.00	\$1.17
2013	\$3.33	\$5.44	\$3.00	\$1.17
2014	\$3.50	\$5.44	\$4.50	\$1.69
2015	\$3.50	\$5.44	\$4.50	\$1.69
2016	\$4.00	\$5.55	\$5.21	\$1.95

# Proposed FY 16 Rates

Utility	FY 2015		FY 2016			
	Existing FY15 Rate	FY 15 Monthly Cost for Average Home Owner	Proposed FY16 Rate	FY16 Monthly Cost for the Average Home Owner	% Increase	Monthly Increase for Home Owner
Stormwater	\$4.50 per month for residential units	\$4.50	\$5.21 per month for residential units	\$5.21	15.78%	\$0.71
Wastewater	\$5.44 per 100 cubic feet	\$36.36	\$5.55 per 100 cubic feet	\$37.10	2.00%	\$0.74
Water	\$3.50 per 100 cubic feet	\$23.40	\$4.00 per 100 cubic feet	\$26.74	14.28%	\$3.34
Total Utility		\$64.26		\$69.05	7.45%	\$4.79



Questions ?